North American free trade

Background Paper

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NORTH AMERICAN FREE TRADE: THE MAQUILADORA FACTOR

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INTRODUCTION

On 24 September 1990, Trade Minister John Crosbie announced that Canada would enter into talks with the United States and Mexico in the hope of creating a North American free-trade zone, a market of over 350 million people. Trade between Canada and Mexico is currently about $3 billion and has been growing at an annual rate of approximately 10%. While an enlarged North American trade area offers opportunities for Canadian manufacturers, there is concern that the wage differentials between the two countries will have a significantly adverse effect on Canadian employment. Liberalized trade between Mexico and the United States and lower Mexican wage rates have already resulted in substantial investments on the border between those two countries. The creation of enterprise zones in Mexico has attracted considerable investments not only from American and Canadian firms, but also from other nations that seek to remain cost competitive in the global economy. This paper examines the phenomenon of the "maquiladoras" or Mexican enterprise zones that were created to encourage foreign investments in Mexico.

ENTERPRISE ZONES

The maquiladora (or maquila) industry is composed of a wide variety of industrial activities whose common characteristic is that they operate under the maquiladora regulations, rather than what they produce. They are part of a larger phenomenon, known as enterprise or free trade zones, which are areas composed of export-oriented assembly industries. The economic objective is to achieve export-led industrialization of less-developed countries by attracting foreign investment and technology. The

spectacular success of such enterprise zones in South East Asia has led other developing nations to adopt this strategy.

Enterprise zones are often industrial parks specifically built to service the offshore sourcing needs of foreign firms. Equipment, materials and components are shipped into the zone and held in bonded warehouses until needed. These imports enter duty free on condition that the products assembled or manufactured from them are exported out of the host country. For the multi-national firm there is an advantage in relocating production from an advanced industrial economy to a third world economy, where labour costs are generally much reduced. For the host country, the advantage lies in the jobs created and foreign currency earned when the foreign firm is required to exchange hard currency for local currency at official rates to pay wages and other costs.

Low cost labour and the opportunity to import duty free equipment, machinery and materials are not sufficient to ensure the success of an enterprise zone development program since many industrialized countries maintain tariff and non-tariff barriers to discourage imports created through industrial assistance measures in foreign countries. However through the continuing United Nations Conference on Trade and Development (UNCTAD), industrialized nations began to realize that the poorer nations required some form of trade assistance if they were to improve their economic conditions. In 1968, UNCTAD created the General System of Preferences (GSP) to facilitate the export of developing nations' manufactures to the industrial nations. This created market opportunities for some third world nations, but it is not nearly as significant as the 1962 provisions of the U.S. *Tariff Act.*

Tariff laws in the United States, the world's largest consumer market, are a significant impediment to third world exports. Items 806.30 and 807.00 (806/807) of the U.S. Tariff Schedule, however, provided an opportunity for multinational firms to establish production-sharing practices. Item 806.30 permits the export, processing and re-entry into the U.S. of any non-precious metal article of U.S. origin for further processing, with duty levied only on the value of the processing carried out abroad. Item 807 refers to:

> Articles assembled abroad in whole or in part of fabricated components, the product of the United States, which (a) were exported in condition ready for assembly without further fabrication, (b) have not lost their physical identity in such articles by change in form, shape, or otherwise, and (c) have not been advanced in value or improved in condition abroad except by being assembled and except by operations incidental to the assembly process such as cleaning, lubricating, and painting ... (are liable to) ... duty upon the full value of the imported article, less the cost or value of such products of the United States.(1)

Together these tariff items permit goods assembled abroad from U.S. components to be brought back into the U.S. with duty only on the value added, mainly the (relatively cheap) labour and overhead costs. Though items 806/807 were never intended to promote either offshore sourcing or production sharing they have nonetheless facilitated these trends along the U.S.-Mexican border. In the 1970s, multinational firms began a systematic division of their production processes, not just in the traditional manner of the division of labour on the shop floor, but in a geographical sense. Offshore sourcing, where the materials and components of a final product are assembled or processed in several plants in different countries is largely about labour costs. For products that require straightforward assembly of standard parts and for which air transport is economical, there is no geographical obstacle to offshore sourcing. Export processing zones that combined cheap labour, unrestricted access for foreign capital, and a modicum of political stability have made offshore sourcing a reality.

THE MAQUILADORA INDUSTRY

Mexico instituted the maquiladora program in 1965 to encourage foreign firms to build factories along the U.S.-Mexico border. It was hoped that the strategy would serve as a catalyst for industrial development and employment creation in the designated area.

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(1) United States International Trade Commission (USITC), 1986:82.

Although the program attracted foreign investments it did not achieve significant growth until 1982 when, as a result of a major devaluation of the peso from 24.51 to 57.44 per U.S. dollar, Mexico's wage rates could compete with those of other countries that offered enterprise zone operations. In 1965, Mexican exports to the U.S. amounted to about U.S. $3 million under the provisions of U.S. tariff items 806/807. By 1986, Mexico's 806/807 trade with the U.S. was worth U.S. $6.45 billion.(2) The program has undoubtedly achieved a notable degree of growth and success. Today the maquiladora industry numbers some 1,600 plants that annually generate in excess of U.S. $12.7 billion in products and over U.S. $2 billion of value added income for Mexico while employing some 450,000 workers.(3) The maquiladora industry has supplanted the tourism industry as Mexico's second largest generator of foreign exchange, behind petroleum exports.

As can be seen in Table 1, Mexico's share of 1965 U.S. imports under 806/807 amounted to 0.52%. By 1986 it accounted for 17.67% of the total. In the period 1970-1987, U.S. imports grew ten-fold, from about $40 billion to $400 billion. In the same period, 806/807 imports grew three times as fast, from about $2 billion to over $68 billion.

TABLE 1
MEXICO'S SHARE OF U.S. IMPORTS UNDER TARIFF ITEMS 806 AND 807
SELECTED YEARS

YEAR	TOTAL 806/807 IMPORTS (millions of U.S. dollars)	MEXICO'S SHARE OF 806/807 IMPORTS (in percent)
1965	577	0.52
1970	2 208	9.92
1976	5 722	19.84
1980	14 017	16.66
1986	36 497	17.67

Source: Leslie Sklar, *Assembling For Development: The Maquila Industry in Mexico and the United States,* Unwin Hyman Inc., Winchester, Massachusetts, 1989.

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(2) Leslie Sklair, *Assembling for Development: The Maquila Industry in Mexico and the United States,* Unwin Hyman Inc., Winchester, Massachusetts, 1989.

(3) Government of Mexico, Committee for the Promotion of Investment in Mexico, *An Overview of the Maquiladora Industry in Mexico,* Mexico City, 1990.

Maquiladora plants combine Mexican labour with foreign technology, components and capital to assemble a variety of products. Most of the plants are owned by foreign nationals, primarily from the United States, but also from Japan, Sweden, France, West Germany, Canada, Taiwan, Hong Kong, and Korea. Apart from the American-owned firms, maquiladora plants operated by companies based in Japan, West Germany and Canada generate the largest volumes of products destined for U.S. markets. As a major world industrial area, the original maquiladora region of Mexico appears to be moving away from simple manual assembly operations towards more sophisticated processes requiring larger, capital-intensive plants and higher levels of skill and technological proficiency.

The variety of products assembled in the maquiladora sector has expanded considerably over the years. The fastest growing industrial sectors in 1988 include: chemical products - 92%, metal and wood furniture - 65%, transport equipment - 57%, electric and electronic goods - 49%, and toys and sporting goods - 52%.(4) The employment and value added shares of the major industrial sector in the maquiladora operations is shown in Table 2. The electric and electronic goods sector accounts for the largest

TABLE 2
VALUE ADDED AND EMPLOYMENT SHARES BY INDUSTRY
(in percent)

INDUSTRY	VALUE ADDED	EMPLOYMENT
Electric and electronic goods	41.3	40.0
Transport equipment	25.5	21.0
Textiles and apparel	5.5	9.0
Wood and metal furniture	5.4	5.0
Food processing	1.0	1.5
Chemicals	0.8	1.0
Equipment and tools	0.2	1.5
Other industries	20.3	21.0

Source: Government of Mexico, Committee for the Promotion of Investment in Mexico, *An Overview of the Maquiladora Industry in Mexico,* 1990.

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(4) *Ibid.*

portion of the value added created in the maquiladora plants and is the major employer. While most of this activity is located in areas adjacent to the American border, rising costs in the original maquiladora region is causing some firms to locate their plants in other regions of Mexico. In 1988, non-border regions accounted for 25% of the maquiladora activities as compared to only 12% in 1985.(5)

Table 3 provides an overview of the major economic indicators of the maquiladora industry in the 1980s and a forecast to 1993. The obvious low level of hourly wages in this period is the main incentive that has spurred the rapid increases in both the number of establishments and employment. Also evident is the substantial decline in hourly wage rates that was brought about by the devaluation of the peso in 1982.

TABLE 3
MAQUILA INDUSTRY - ECONOMIC INDICATORS
1980-1993

YEAR	PLANTS	VALUE ADDED (in billions of U.S. $)	FOREIGN EXCHANGE (in billions of U.S. $)	EMPLOYMENT (thousands)	WAGES ($/hour)
1980	329	0.59	0.77	119.5	1.43
1981	387	0.75	0.98	131.0	1.68
1982	455	0.60	0.85	127.0	1.22
1983	535	0.57	0.82	150.9	0.91
1984	722	0.81	1.16	199.7	1.06
1985	789	0.89	1.27	212.0	1.07
1986	987	0.88	1.30	249.8	0.80
1987	1259	1.08	1.60	305.3	0.81
1988	1490	1.40	2.10	345.0	0.95
1989	1700	1.51	2.25	364.0	1.00
1990	1850	1.59	2.35	377.7	1.04
1991	n.a.	1.70	2.52	406.0	1.05
1992	n.a.	1.79	2.65	427.0	1.08
1993	n.a.	1.86	2.77	448.5	1.09

Source: Elsie Echeverri-Carroll, *Maquilas: Economic Impacts and Foreign Investment Opportunities;* and Government of Mexico, *An Overview of the Maquiladora Industry in Mexico.*

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(5) *Ibid.*

COST-BENEFITS OF MAQUILADORA INVESTMENTS

There are several factors that stimulate foreign investments in the maquiladora industry. First of all, both the American and Mexican governments support the concept through a host of commercial and tariff measures. There are also direct economic benefits through savings in labour and transportation costs (as compared to East Asian locations), improved accessibility to American, Mexican and even Latin American markets, and increases in labour productivity.(6) Wage differences between Mexico and the U.S. have traditionally induced American manufacturers to locate facilities in Mexico. By 1987, Mexican wages were also competitive with Hong Kong, Malaysia, and Korea, thereby attracting the interests of foreign multinationals with subsidiaries in the U.S. These subsidiaries began to locate facilities in Mexico. For example, Japanese multinationals established 31 maquiladora plants between 1982 and 1988, 15 of which were set after 1987. It is estimated that maquiladora sites, as compared to American sites, offer savings in the range of U.S. $15,000 to U.S. $20,000 annually per worker.

A decision to invest in a maquiladora operation must take into account certain constraints in the region where most of the activity currently takes place. These consist of shortcomings in infrastructure, housing, and social amenities, and a lack of professional or skilled labour, which will increase as more sophisticated assembly processes are introduced into the maquiladora plants. The rapid growth of the maquila industry is also beginning to create pressures that can be expected to increase the cost of labour. Already, competition for labour in some locations is creating turnover rates of 100%.(7) Indeed the combination of poor infrastructure and the scarcity of skilled labour may ultimately restrain the growth potential of the maquiladora industry.

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(6) Elsie Echeverri-Carroll, *Maquilas: Economic Impacts and Foreign Investment Opportunities,* Graduate School of Business, University of Texas, Austin, 1988, p. 3.

(7) *Ibid.*, p. 39.

TYPES OF MAQUILADORA ARRANGEMENTS

Foreign firms wishing to take advantage of the benefits available from operating under the maquiladora program enter into one of three types of arrangement. The first, and most prevalent, arrangement is to establish a wholly-owned Mexican subsidiary that is then subject to Mexican law in all respects. For tax purposes, the Mexican government treats these subsidiaries as cost centres rather than profit centres. The second type of arrangement is to subcontract the manufacturing process to an existing Mexican company located in Mexico. In this approach the foreign firm remains responsible for supplying the Mexican firm with the necessary raw materials and other inputs, while the Mexican firm looks after the manufacturing process. The third approach, the "shelter approach," is similar to the second approach in that the manufacturing plant and equipment are Mexican-owned; however, in this instance the foreign company retains full control over the operation. The subcontracting and shelter approaches have become increasingly important in the maquiladora regions in recent years as being the most suitable arrangement for small and medium-sized firms without either the financial resources to invest in plant and equipment or experience with offshore production practices.

CANADIAN CONCERNS

Without formally joining any free trade arrangement with this country, Mexico is already capturing investments and jobs that might previously have come to Canada. There is concern that Canada, in joining the Mexico-U.S. free trade discussion, will lose even more employment opportunities to the maquiladora zones. However, it must be understood that it is as much the ability of maquiladora producers to export into the U.S. at reduced tariff rates as their low-cost wage structure that is attracting investments into their region of North America. A decision on Canada's part not to enter a North American free trade arrangement would not alter the economic forces that are already attracting Canadian jobs to

Mexico. For the most part, these jobs involve low-skill assembly work in a host of manufacturing companies that seek to remain competitive in the global marketplace. The type of jobs that could be transferred to Mexico are most likely to remain lowskilled assembly type work. More sophisticated production technology requires higher level skills and higher levels of infrastructure services than are currently available in Mexico's economy, a fact that is expected to constrain the future growth of the maquiladora industries. In time, wage rates and infrastructure costs in Mexico should rise, thus reducing the economic attractiveness of operating there rather than in Canada. In the interim it is difficult to predict which industrial sectors are most likely to invest in maquiladora plants. However, recent Canadian relocations include a seatbelt manufacturer, an auto-parts manufacturer and a producer of paper products.(8)

CONCLUDING REMARKS

1990 marks the 25th anniversary of the establishment of the maquiladora program in Mexico. There is no doubt that the program has been successful in creating jobs and in providing value added exports for the Mexican economy. The economic benefits created by the program are extremely strong inducements for foreign firms of all sizes to relocate some portion of their manufacturing process in the maquiladora regions. Even in the absence of a North American free trade arrangement, the labour cost savings available in Mexico will continue to attract investments into that country; the creation of a North American Free Trade Zone will probably accelerate the process. The continued attractiveness of the maquiladora system may, however, be moderated by the lack of local infrastructure and the inadequate supply of professional and skilled labour.

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(8) *Montreal Gazette*, "Far-fetched Notion May Be Getting Closer," 27 June 1989.

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